

Headquarters U.S. Air Force

Integrity - Service - Excellence

Streamlining Space Acquisition Oversight National Security Space Acquisition Policy 03-01



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**SAF/USAP
Directorate of Space
Acquisition
10 March 04**



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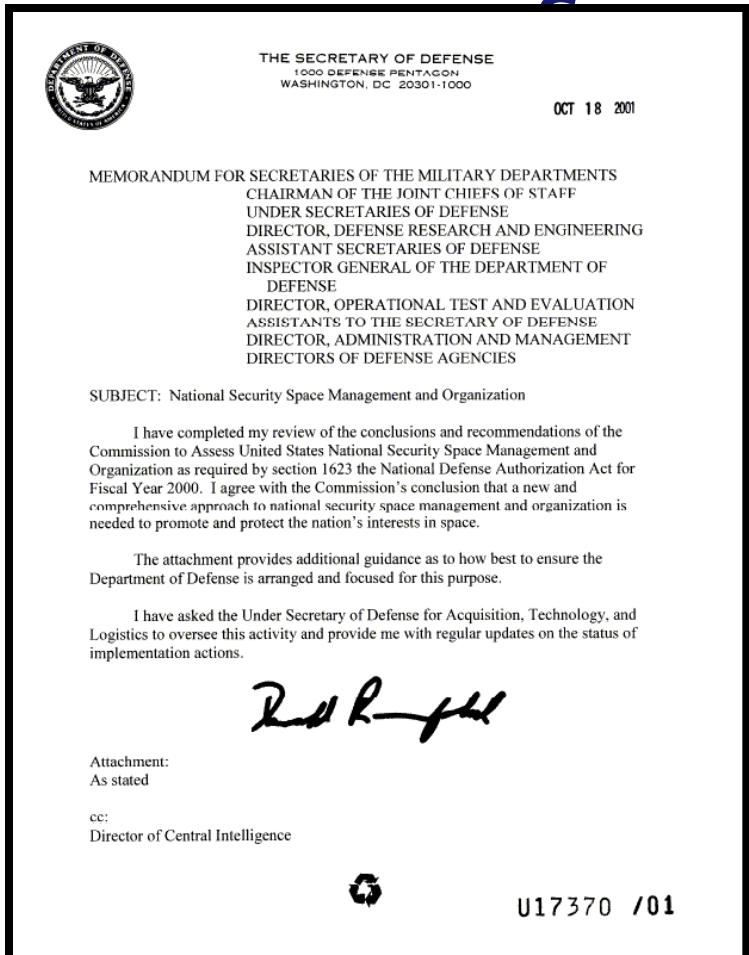
Purpose

- **Familiarize MAJCOM action officers with the new NSS Space Acquisition Policy and the capabilities based acquisition process**
 - **Why a space acquisition policy?**
- **Discuss revised Acquisition Process and Guidance to support warfighter requirements**



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18 Oct 01 SecDef Memo Acq Excerpts



Commission Implementation Direction

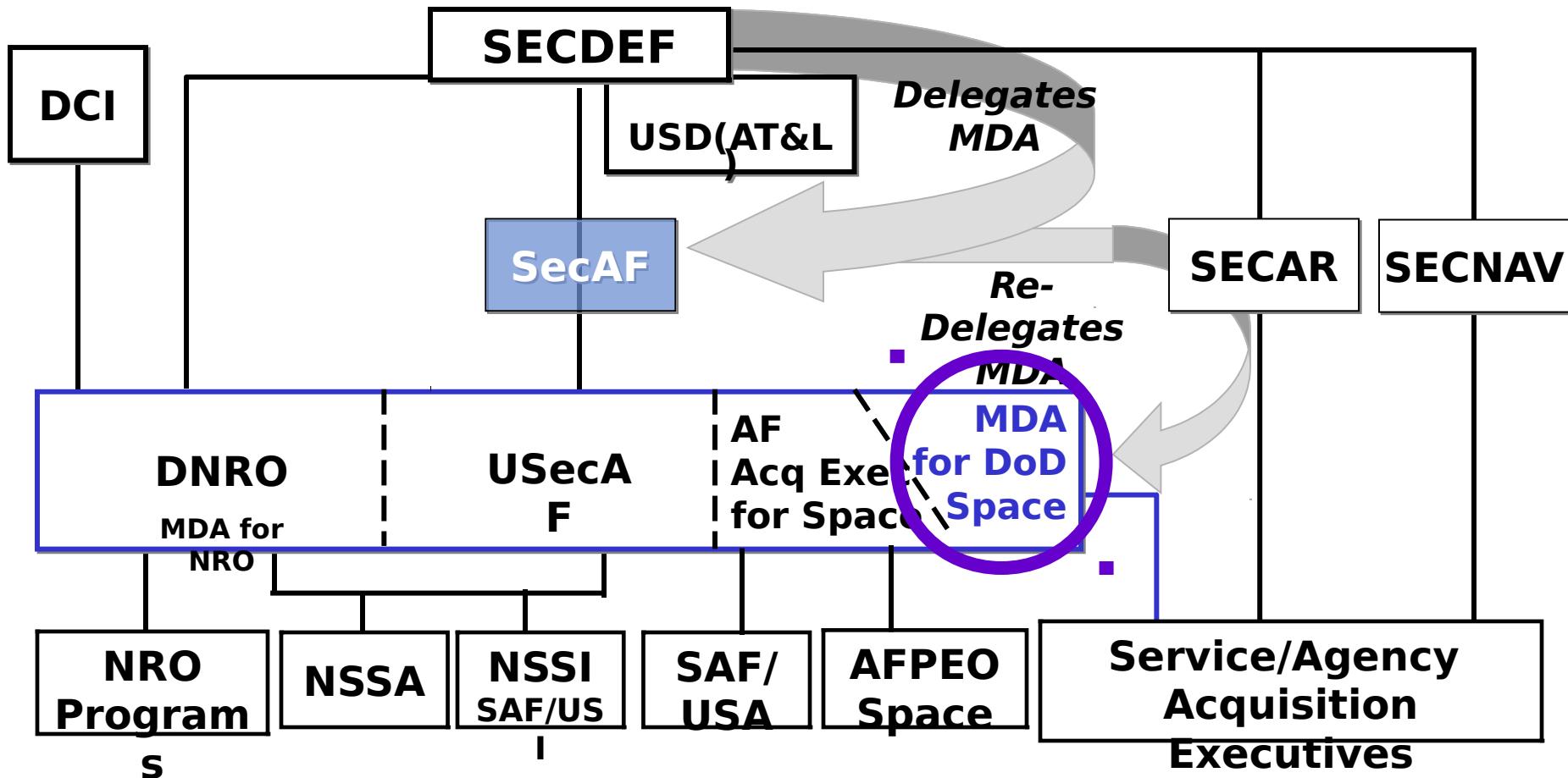
- Delegate MDA for DoD Space to AF
- Designate AF as DoD Space Exec Agent
- Assign USecAF as AF AE for Space
- Establish a “virtual” Space MFP
- Appoint USECAF as DNRO
- Separate AFSPC/CC from CINCSPACE
- Reassign SMC to AFSPC
- Assign SMC/CC as PEO(Space)
- Assign PEO(Space) to USecAF
- Establish process for AFSPC/CC to oversee:
 - Space S&T funds
 - Space career field
- Align AF-NRO Best Practices

SECDEF Message: Single Leader for National Security Space



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MDA for National Security Space (NSS)





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DIRECTORATE OF SPACE ACQUISITION

SAF/USA

**Acting Director, Mr. Rich W.
McKinney (SES)**

**Space Plans &
Policy
SAF/USAP
Lt Col Leslie
Blackham**

NSS Act Policy 03-01

**Mission Support,
Congressional &
Budget
SAF/USAM
Ms Lauri A. Smith**

**Congressional,
PPBS, Execution,
Computer Support**

**Space Control &
Advanced
Technology
SAF/USAC
Lt Col Michael Fleri
ACTING**

**Space Control
SBR, NSSA
TENCAP, SWC
Spacetrack**

**Space Force
Enhancement
SAF/USAE
Col Pamela Hodge**

**Adv EHF, Milstar,
Interim Polar,
Transformational
Comm, WGS, DSCS,
CCS-C
MILSATCOM
Terminals, CSEL,
GBS
SBIRS, DSP,
GPS
(Space/UE/NDS).**

**Space Support &
Force Application
SAF/USAL
Col James M.
Knauf**

**MEECN, RLV, STP,
RSLP
Ranges, AFSCN,
RDSMO,
EELV,
ICBM -
Modernization
&
Dem/Val
ORS CAV MIV**

SAF/USA
1060 Air Force
Pentagon
Washington, DC
2033021060
04



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NATIONAL SECURITY SPACE INTEGRATION DIRECTORATE

SAF/USI

**Director, Maj Gen Robert C.
Kehler**

**Deputy Director, Mr. Jay Parness
(SES)**

**Compliance
Division
Mr. George Smith**

**Special Assistant
Col Stan Mushaw**

**System/Operations
Integration
Division
SAF/USIS
Col Frank Todd
(ARMY)**

**Program
Integration
Division
DSAB Executive
Secretariat Support
SAF/USIP
Col Joseph Rouge**

**Planning
Integration Division
SAF/USIX
Col Thomas
Shearer**

**Special Projects
Division
SAF/USIR
Lt Col Catherine
McGinn**

Assistant Secretary for Acquisition (SAF/AQ)

Assistant Secretary (Acquisition)
Dr Marvin Sambur

SAF/AQ Principal Deputy
Lt Gen Corley

Program Executive Officers (Execution)

AFPEO/AC
Aircraft Systems
LtGen Looney
BGen Bowlds

AFPEO/C2&CS
Command & Control
LtGen Johnson
BGen Mahan

AFPEO/WP
Weapons
MGen Chedister

AFPEO/JSF
Joint Strike Fighter
MGen Hudson

AFPEO/FA-22
F/A-22 Program
MGen Lewis

AFPEO/CM
Services
Mr Beyland

Capability Directors (Air Staff)

SAF/AQQ
Global Reach
MGen Hodges

SAF/AQP
Global Power
MGen Welsh

SAF/AQI
Information Dominance
Mr Smart

Staff Group (AQA)
Scientific Adv. Board
AF Chair - DSMC

Functional Directors - Support both Space & Non-Space

SAF/AQC
Contracting
Mr Williams

SAF/AQL
Special Programs
Col Bujold

SAF/AQR
Science, Tech & Eng
Mr Engle

SAF/AQX
Acquisition Integration
Mr Durante



U.S. Air Force U.SecAF NSS Acquisition Policy Guidance

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- Establish a “common” acquisition process between NRO and DoD that is tailored for space systems
- Improve the probability of delivering what we promise
- Reduce the Acquisition Decision Cycle Time



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Streamlined Policy

- **DoD Directive 5000.1**
 - Principles retained; innovation/flexibility emphasized
- **DoD Instruction 5000.2**
 - Detailed discussion of acquisition model
 - Focused on required outcomes and statutory requirements
 - MDA can tailor
- **NSS Acquisition Policy 03-01, dtd 6 Oct 2003**
 - Detailed discussion of acquisition model tailored for space
 - Portions of DoDI 5000.2 under AT&L jurisdiction are waived for space systems
 - NSS 03-01 refers space systems back to DODI 5000.2 for those portions not waived (Test & C4ISP)
- **DoD Acquisition Guidebook - Non-mandatory**
 - Canceled DoD Regulation 5000.2
 - Guidance on practice and procedure
 - Revision underway



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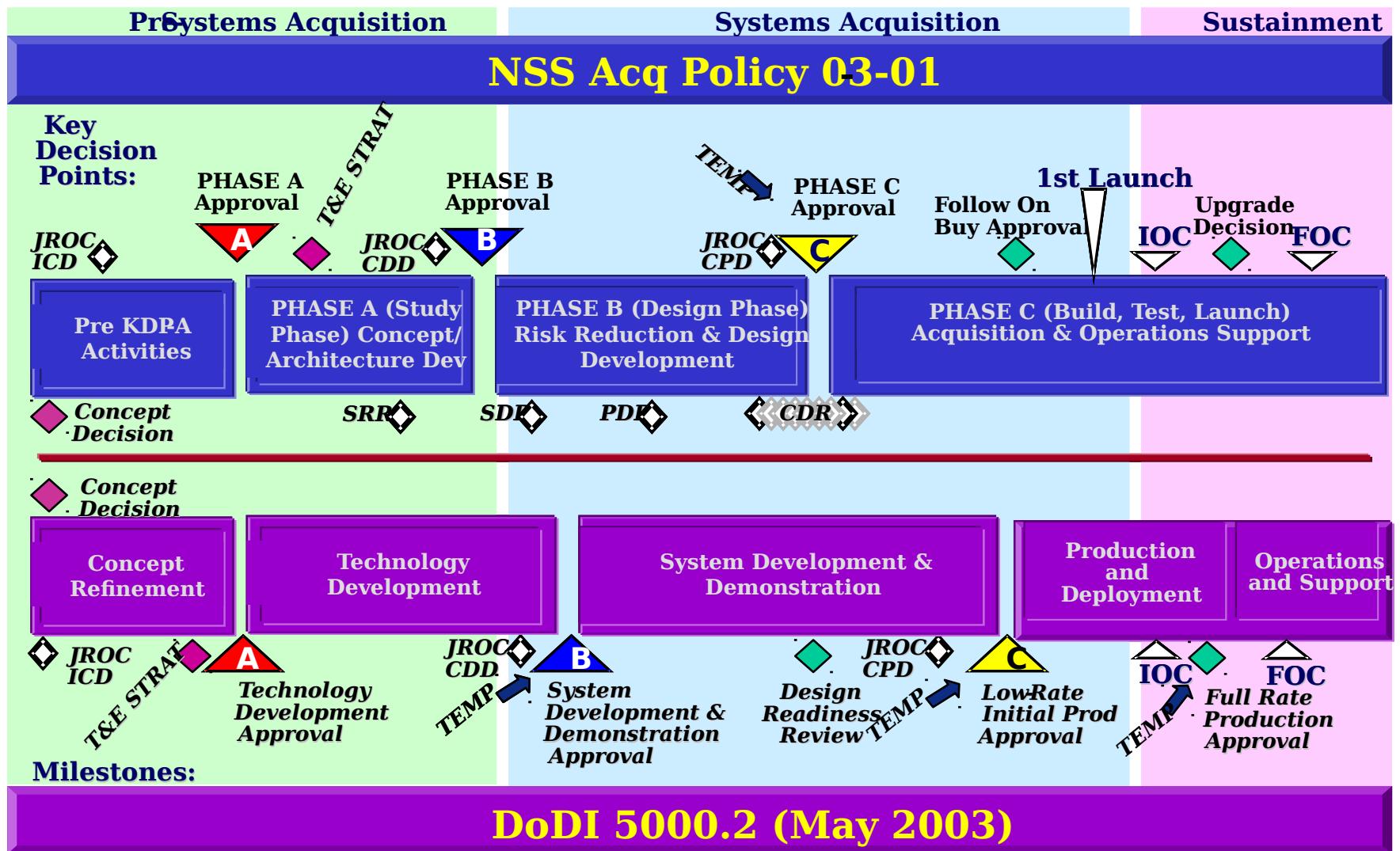
Acquisition Categories and Milestone Decision Authority

	Non-Space Programs	Space Programs	
Classification	Sub-Designation	MDA	MDA
MDAP Greater than \$365M RDT&E \$2.19B Proc	ACAT ID	USD(AT&L)	USecAF
	ACAT IC	SAF/AQ as delegated by SecAF	
MAIS	ACAT IAM	ASD(NII)/DoD CIO	AFPEO/SP
	ACAT IAC	AF CIO as delegated by DoD CIO	
Major System Greater than \$140M RDT&E \$660M Proc	ACAT II	SAF/AQ	AFPEO/SP
Non-major System (Space - Minor) Less than \$140M \$660M Proc	ACAT III	AFPEO, DAC, or lower	
Technology projects	ATDs, ACTDs, joint warfighting experiments, concept refinement	USD(AT&L) or ASD(NII)/DoD CIO or SAF/AQ	USD(AT&L) or ASD(NII)/DoD CIO or USecAF



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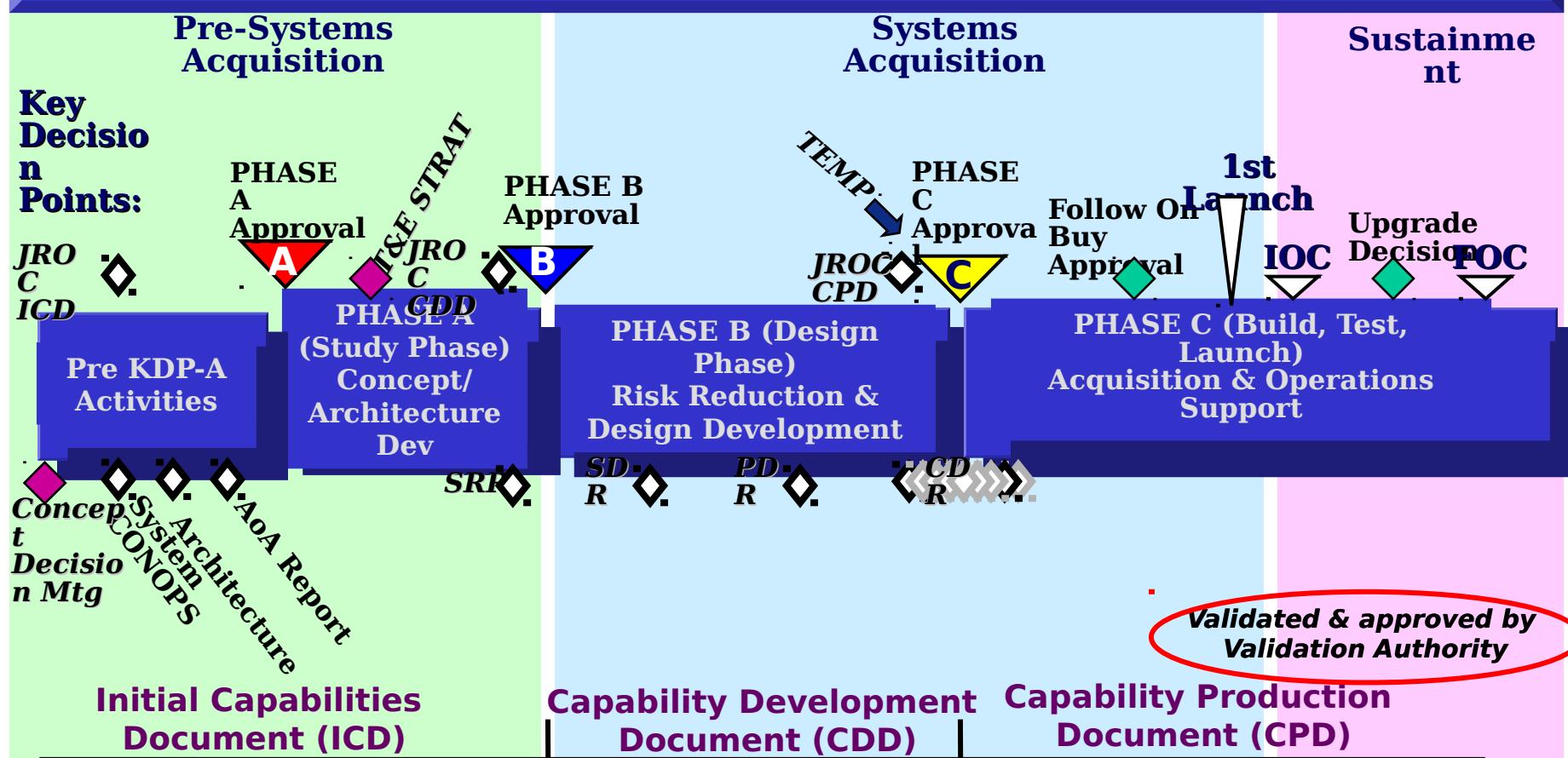
Tailored Process for Space: Acquisition Phase Comparison





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Small Quantity Acquisition Phase Model -- NSS Acq Policy 03-01



Relationship to Joint Capabilities Integration &

Development System

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Improve Probability of Success

New NSS Acq Process:

- **Conducts timely, focused independent program assessments before proceeding into next acq phase via:**
 - **Independent Program Assessment Team (IPAT) process**
 - **Independent Cost Assessment Team (ICAT) process**
 - **OSD Cost Analysis Improvement Group (CAIG) leads Independent Cost Assessment/Independent Cost Estimate**
 - **ICAT members will include AF, Army, Navy and NRO**
- **Defense Space Acquisition Board (DSAB)**
 - **One decision maker - USecAF**
 - **Open, inclusive process and discussion**
 - **Extends to acquisition strategies, IPRs, etc.**

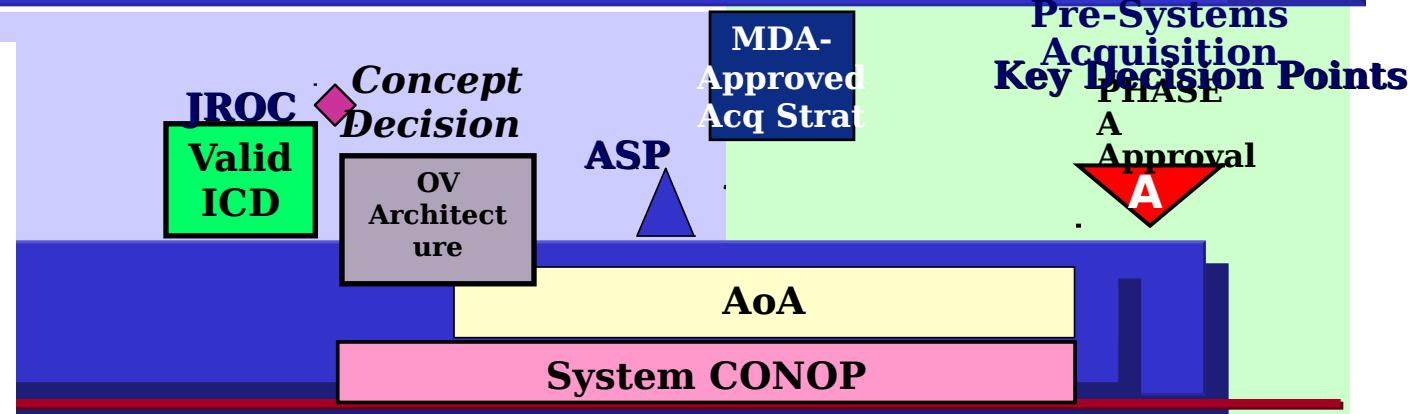
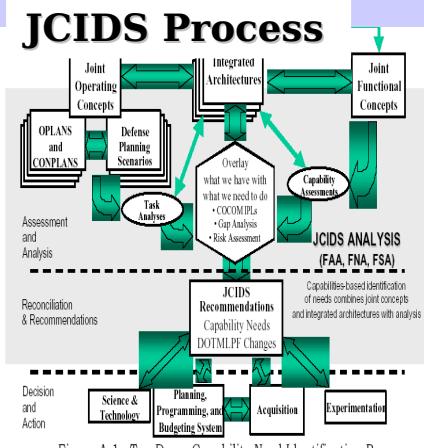


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Pre-KDP A Activities Lay the Ground Work

NSS Space Acq Policy 03-01: Pre-KDP-A Activities

JCIDS Process



Entry Criteria:

- ICD - draft
- Concept Decision Meeting

Concept Sponsor Activities
Complete ICD, Complete Integrated Architecture
Establish System-specific CONOPS for system to be acquired

Acquisition Activities

Build from the ICD and associated Integrated Architecture

Assess Technology

Conduct Analysis of Alternatives (if required)

Develop Acquisition Strategy

Key Exit Criteria - JROC ICD; approved AoA

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Phase A - Study Phase

Establish Program Baseline

NSS Space Acq Policy 03-01: Phase A - Study Phase

PHASE
A
Approval

Initial SV & TV
Architecture

T&E STRAT

AS
P

MDA-
Approved
Acq Strat

IROC

CDD

Pre-Systems
Acquisition

PHASE B
Approval

B

SRR

Entry Criteria:
- JROC approved
ICD
- AoA (if required)
- System CONOP
- MDA approved
Acq Strategy

Concept Sponsor Activities

- Complete CDD - Iterative process: refine concepts, use trade studies

Acquisition Activities

- Refine concepts and architectures - Conduct concept studies/trade studies
- Access & mature technologies
- Conduct requirements development activities: e.g. Successful System

Requirements Review (reqmts derivation, flow-down, definition, etc)

- Establish Acquisition Program Baseline

Integrate Key Exit Criteria - Refined Concepts & Architectures

Program Baseline - System Requirements (PDR)



PHASE B - Design the System

Prepare for System-Level Satellite

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Build

NSS Space Acq Policy 03-01: Phase B - Design Phase

PHASE B
Approval

B

Initial C4ISP

TEMP

MDA-
Approved
Acq Strat

ASP

JROC

CPD

PHASE
C
Approva

C

SDR

PDR

CDR

Updated SV
& TV
Architecture

Updated
C4ISP

Entry Criteria:

- JROC approved CDD
- MDA approved Acq Strategy
- OT&E approved T&E Strategy
- Submitted C4ISP
- Acq Program Baseline

Concept Sponsor Activities
 Complete CPD - Iterative process with acquisition design completion

Acquisition Activities
 Design system - Finalize trades due to technology, cost (iterative with Sponsor)
 Complete system design reviews: SDR, PDR, CDR
 Complete technology maturation. Goal: all at TRL 6 by PDR
 Begin component, sub-system build
 Prepare for manufacturing - drawings/tooling for satellite integration

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 Complete plans for supportability, test, program protection, etc



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PHASE C - *Build phase*

Build, integrate, test, deploy (launch)

~~system~~

NSS Space Acq Policy 03-1 - Phase C Build



Entry Criteria:
- JROC approved
CPD
- OT&E approved
TEMP
- Approved
C4ISP
- Final Satellite
Design
- Technology

Matured

Concept Sponsor Activities

- Prepare for and support system deployment - training, support to OT&E

Acquisition Activities

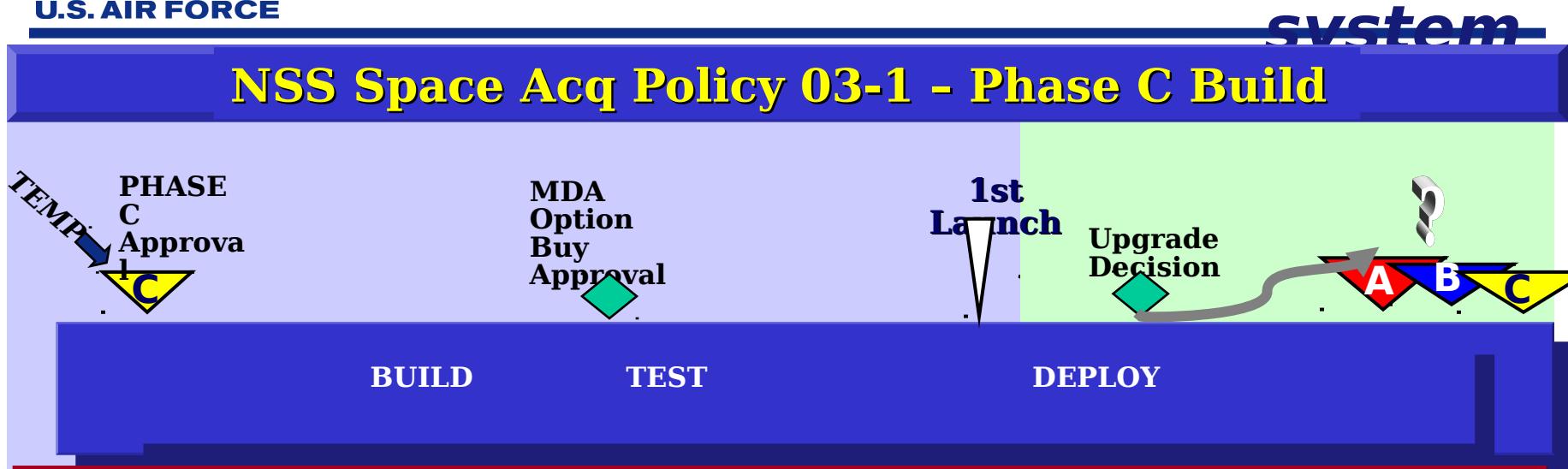
- Build system: KDP C for satellites approves build for first R&D sats
- Test System
- Deploy system - Launch satellite & Complete System Test
- Continue build, test, deploy, test through completion of constellation

Upgrade Decision: - Accomplish Upgrades or Return to Key Decision



PHASE C - *Build phase*

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Entry Criteria:
- JROC approved
CPD
- OT&E approved
TEMP
- Approved
C4ISP
- Final Satellite
Design
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Concept Sponsor Activities

- Prepare for and support system deployment - training, support to OT&E

Acquisition Activities

- Build system: KDP C for satellites approves build for first R&D sats
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Independent Program Assessment Approach

IPS

- 1. Program Status
- 2. Draft RFP
- 3. Requirements
- 4. Alternatives
-

Program Briefings

Program Documentation

Initial Areas for In-depth Review

Q&A

Independent Cost Analysis

Independent Program

- ~~First Order Review~~ of Entire Program
- Identify and Resolve Key Issues
- In-depth Exploration of Critical Issues

Additional Analysis as Required

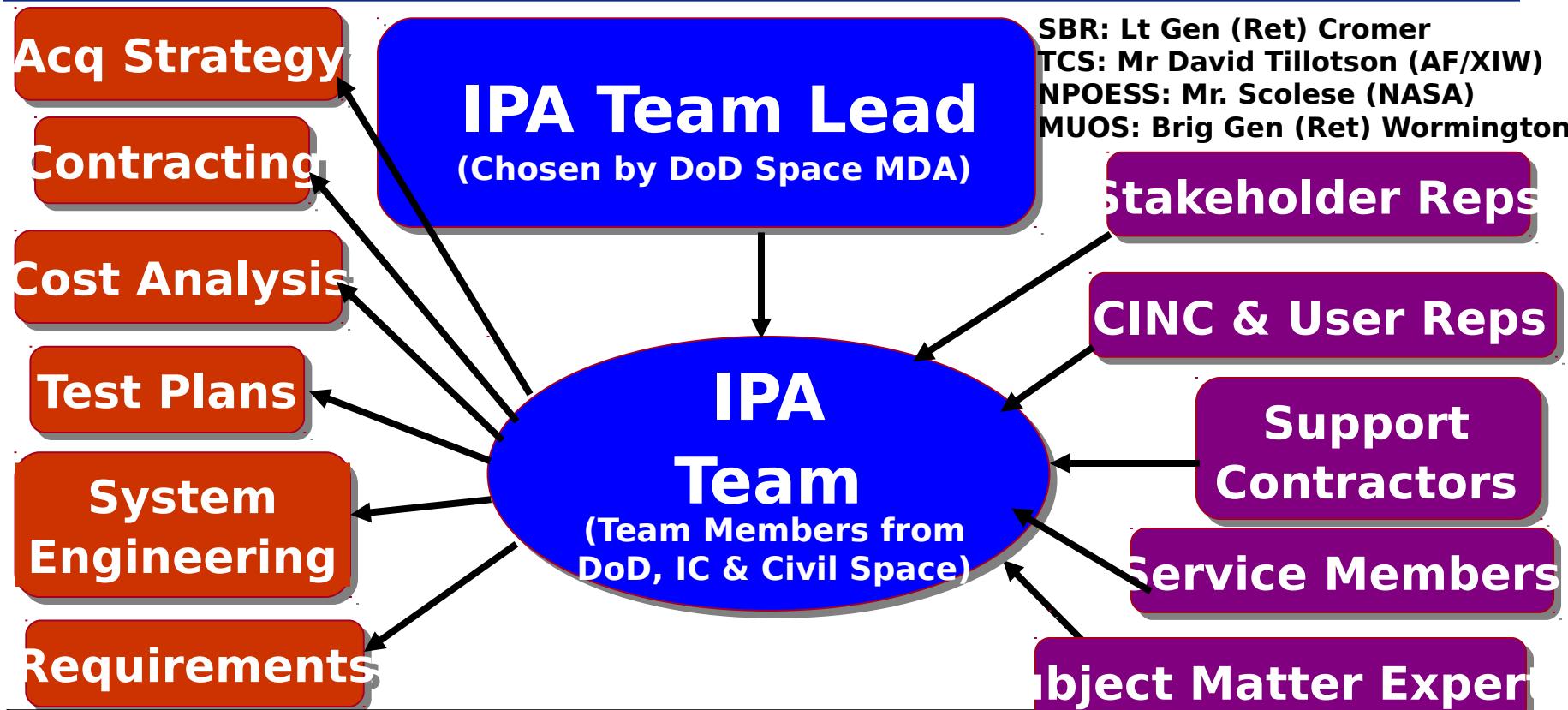
Assessment Products

- IPA Document
 - Program Status
 - Exit Criteria
 - Alternatives ...
- ICE/ICA
- Draft ADM
- Briefing to DSAB



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IPA Team Composition & Review Areas



"The kind of review that the USecAF/DNRO would do personally if he had the time"



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IPS Content

- 1. System Acquisition Strategy
- 2. Execution Status of Program
- 3. ADM Exit Criteria from previous KDP
- 4. **Requirement & Architecture Summary**
- 5. System Engineering Process Review and System Engineering Management Plan
- 6. **Alternatives assessed & results**
- 7. **Most Promising Alternative and Rationale**
- 8. Cost Drivers/Major Trade Offs
- 9. Risk Management - Risk Assessment/Risk Reduction Plan
- 10. Support Issues & Plans (i.e., Manpower, Training, Logistics, etc.)
- 11. **Architecture Description (including interfaces with other systems & architectures)**
- 12. Clinger Cohan Act Compliance
- 13. Program Protection Planning, Information Assurance Strategy & Cryptological Systems
- 14. **DT&E and OT&E approach**
- 15. Program Environmental, Safety & Occupational Health Evaluation (PESHE)
- 16. **Program Office Estimate and FYDP Implications**
- 17. Recommendations (i.e., Draft ADM, Draft Exit Criteria, Draft APB if KDP C)



*Notional DSAB Invite List for AF Space MDAP

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USAF

SAF/AQ
SAF/FM
SAF/US(D)
SAF/GC
USAF/XO
USAF/XP
USAF/IL
USAF/XI
AFSPC/CC
AFMC/CC
AFPEO/SP
SAF/USI
SAF/USA

* Tailored To Individual Program
* Requires Empowered Participants

**MDA for
DoD
Space**

**Mission
Partners**

DOC; NASA
NOAA; DOT

**Stakeholders,
Users, & Customers**

USD(AT&L); USD(P); USD(C)
OSD(PA&E); Dir OT&E; ASD/NII
USD(I); DDR&E; DDNRO; Dir NSS
USec Army; Army /G8; SMDC/C
USec Navy; Navy N7
Dir DARPA; VCJCS; JCS J8
USSTRATCOM
Navy Space Command

- MDA is the Single Point Decision Maker for DoD Space Acquisitions
- VCJCS is DSAB Co-Chair
- DSAB members make recommendations to the

MDA

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Summary

- **New Space Acquisition Policy**
 - ✓ **Establishes a “common” acquisition process between NRO and DoD that is tailored for space systems**
 - ✓ **Improves the probability of delivering what we promise**
 - ✓ **Reduces the Acquisition Decision Cycle Time**
- **Programs, People, Processes Key to successful implementation**
 - **Collaboration among SAF/US, User, Test, and S&T**



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Questions?

POCs:

DSAB Executive Secretariat - SAF/USI National Security Space Integration

DSAB POC - Col Rouge

John Crider (john.crider@pentagon.af.mil)

Mike Dwyer (michael.dwyer@pentagon.af.mil)

NSS 03-01 Policy - SAF/USA Director of Space Acquisitions

NSS 03-01 POC - LTC Leslie Blackham (leslie.blackham@pentagon.af.mil)

SMC DSAB facilitator - SMC/AXD

Facilitator - Maj Dave Tsui (david.tsui@losangeles.af.mil)

Web Page: <http://www.safus.hq.af.mil/usa/usap/index.html>



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Back up



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SAF/USA/USI roles and responsibilities wrt DSAB process

- **SAF/USA owns the process**
 - **Writes/Interprets the policy**
 - **Coordinates and staffs key acquisition documents:**
 - **SSAS, APB, ADM, DAES, SAR, etc**
- **SAF/USA is USecAF staff for Component Acquisition Executive role**
 - **Monitors compliance with ADM direction**
 - **Tracks actions after the KDP-C**
- **SAF/USA PEMs are still the primary program liaison**
- **Others: AQR, AQC, AQX, GC still support USecAF in his role as CAE and MDA**
 - **Example: AQC is the ASP Secretariat for SAF/US**



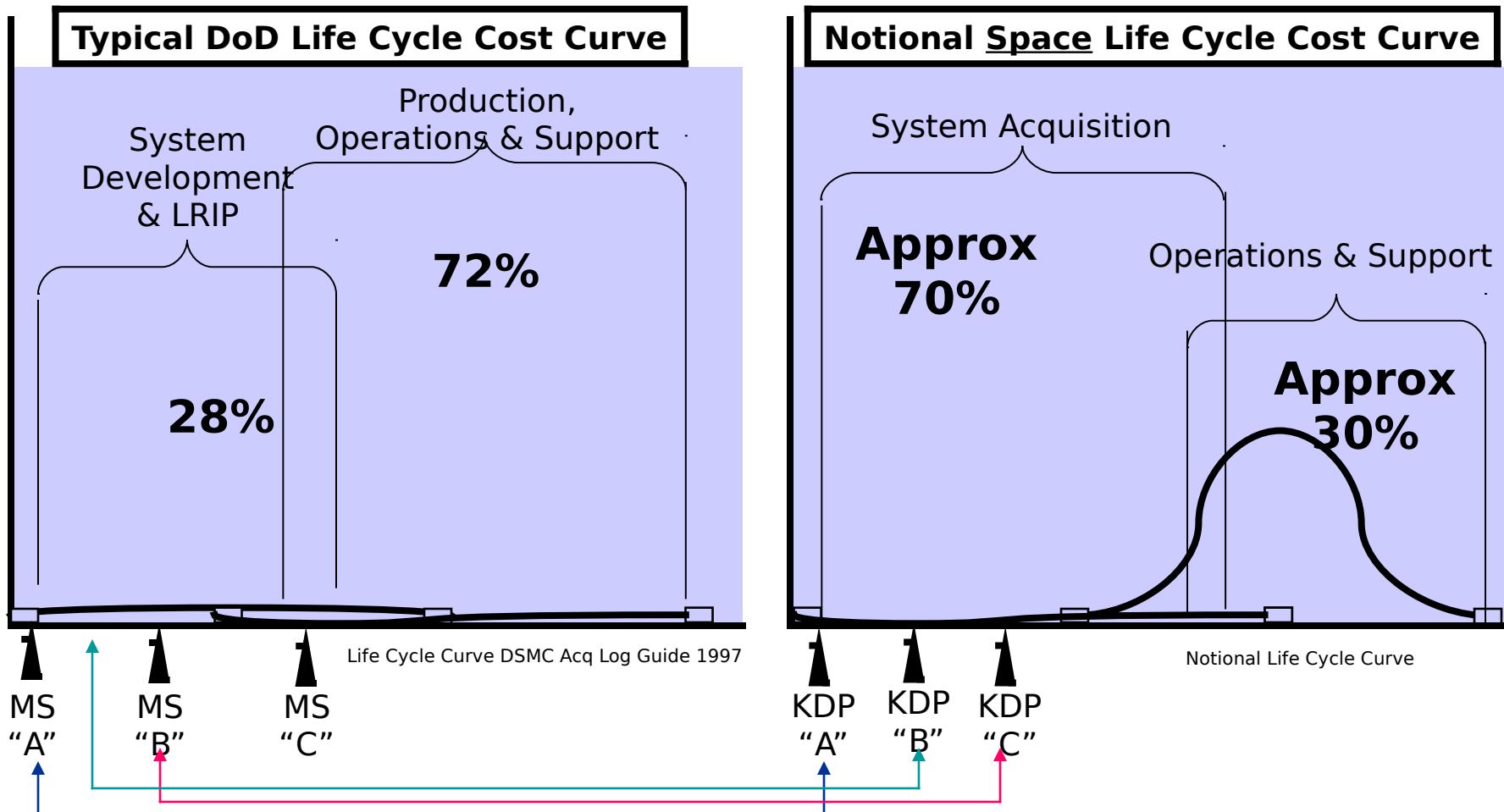
NSS 03-01 Points Of Contact

- **DSAB Executive Secretariat - SAF/USI National Security Space Integration**
 - **DSAB POC - Col Rouge**
 - **John Crider (john.crider@pentagon.af.mil)**
 - **Mike Dwyer (michael.dwyer@pentagon.af.mil)**
- **NSS 03-01 Policy - SAF/USA Director of Space Acquisitions**
 - **NSS 03-01 POC - LTC Leslie Blackham (leslie.blackham@pentagon.af.mil)**
- **SMC DSAB facilitator - SMC/AXD**
 - **Facilitator - Maj Dave Tsui**
 - **(david.tsui@losangeles.af.mil)**
- **Web Page**
 - **<http://www.safus.hq.af.mil/usa/usap/index.html>**



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Tailored Process for Space: Life Cycle Comparison





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Integrated Program Summary (IPS)

IPS

Execution Status of Program

- Program mgmt structure & office staffing levels
- “New Start” Certification/Notification
- High-level program description
- Program process made in prior phase
- Current content and cost compared to original baseline
- Unit costs & baseline changes
- Current financial execution
- Use of Earned Value Mgmt System
- Cooperative opportunities w/ Allies
- Registration with DoD CIO
- Status of program application for Frequency Application Status
- Program related technology assessments & issues identified by labs
- Next phase executability projection & assumptions

IPS

Space System Acquisition Strategy

- Program Description
 - Description of program
 - Capability being provided/met
 - Cost goals, delivery/performance period, performance characteristics
- Compliance with DoD Strategic Plan
- Program Office Description & Activities
- Risk Areas & Design Considerations
 - Those affecting acquisition strategy
 - Cost, schedule, performance constraints
- Acquisition Approach and Program Structure
 - Use and structure of Evolutionary Acq
 - Life cycle program schedule with key dates
 - Monthly schedule for upcoming phase
- Business and Contracting Strategy
- Potential Sources



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Integrated Program Summary (IPS)

IPS

- **Summary of fulfillment of direction at previous KDP & ADM Exit Criteria**
- **Requirements and Architecture Summary**
 - **Req't set program expected to satisfy**
 - **Time of and authority who validated req'ts**
 - **Reasons for req'ts shortfalls, waivers, etc. & remaining validation activity**
 - **JROC approved NSSA req'ts applying to program**
 - **How program will meet program protection, system vulnerability, and radiation hardening requirements**
 - **Space Situational Awareness req'ts**

IPS

- **Systems Engineering**
 - **Systems Engg Management Plan**
 - **System req'ts ID & flow down**
 - **Mgmt & interface control mechanisms**
 - **Traceability of capability needs to system req'ts**
 - **Traceability of system req'ts to design components**
 - **Use of value engineering principles**
 - **Status of key SE processes/practices**
- **Alternatives Assessed & Results**
 - **For KDP-A → AoA results**
 - **For KDP-B → concept/arch studies**
 - **For KDP-C → design alternatives**
- **Most promising alternatives and rationales**
 - **Cost, schedule, and performance assessment of MPA & rationales**



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Integrated Program Summary (IPS)

IPS

- **Cost Drivers & Major Trade-offs**
 - Use of Cost As an Independent variable
 - Current cost drivers
 - Prior & future major tradeoff decisions
 - Contractor incentivization
 - If using commercial system, strategy to ensure cost goals
- **Risk Management**
 - Risk mgmt plan summary
 - Proposed risk sharing arrangements
 - Components/subsystems most directly affected
 - Risk mitigation strategies
 - How maturity of software contractor & effort was determined

IPS

- **Support Issues & Plans**
 - Manpower resource req'ts
 - Plans for training
 - Logistics supportability concepts
 - Planned adherence to relevant directives, policies, etc.
 - Depot maintenance
 - Transition schedule to Lead Command
- **Architecture Description**
 - Arch & interface with other systems and architectures
 - OV, TV, SV architecture products
 - Systems in acquisition or operations
 - SSA interface req'ts
 - Interfaces/impacts with other NSS organizational elements & external organizations
 - Synchronization across programs and among elements and segments, including disconnects



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Integrated Program Summary (IPS)

IPS

- **Clinger-Cohen Act Compliance**
- **Program Protection Planning, Information Assurance Strategy, & Cryptological Systems substantiation**
- **Developmental and Operational Testing Approach**
 - Overall structure and objectives
 - Necessary activities
 - Relationship to test objectives to critical operational issues, technical parameters, etc.
 - Link verification matrix in operational test plan to validated req'ts documents

IPS

- **Program Environmental, Safety, and Occupational Health Evaluation**
- **Program Office Estimate & Future Years Defense Plan Implications**
- **Recommendations**
 - Draft of next phase exit criteria & any other program direction desired
 - Draft ADM
 - Draft APB
 - Draft RFP if applicable



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“Establish “common” acquisition process across NRO and DoD Space”

- **What's the Same between NRO Dir 7 & updated USecAF NSS Acq Policy 03-01:**
 - USecAF / DNRO is the NSS MDA
 - IPAT central to streamlined program review process
 - Key Decision Points instead of Milestones
 - Focused on acquisition of satellite systems

***Processes not identical mainly due to Title 10 MDAP requirements . . .
. . . But they are “common”***



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Tailored Process for Space: 4 Types of Space Systems

Space System Type	Example
1.) Space-based systems	Satellites
2.) Ground station systems	Satellite ground control, payload data processing stations, space surveillance stations, C2 systems
3.) Satellite launch vehicle systems	Boosters, upper-stage, payload processing facilities, space launch facilities, ground support equipment, etc.
4.) User equipment	Hand-held user terminals, data reception terminals



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Tailored Process for Space: DoD Space MDAP List

USecAF has 11 DoD Space MDAPs and Pre-MDAPs under his MDA:

- **6 Satellite/Ground Station Programs**
 - AEHF, GPS, NPOESS, SBIRS High, MUOS (Navy), WGS,
 - 2 Pre-MDAPs: TSAT, and SBR
- **1 Space Launch Vehicle Program**
 - EELV
- **2 User Equipment Programs**
 - GBS, NESP (Navy)

Per 1 Jul 03 OSD MDAP List



Key Differences between DoD 5000 & USecAF NSS Acq Policy 03-01

- **DoD 5000:**
 - **Large quantity production decision based process**
 - **Uses multi-level IPT process for program review prior to MDA milestone decision**

- **USecAF NSS Acq Policy 03-01:**
 - **Small quantity/R&D decision based process**
 - **Uses Independent Program Assessment Team (IPAT) process for program review prior to MDA Key Decision Points**



Key Differences between NRO Dir 7 &

~~NSS Acq Policy 03-01~~

NRO Dir 7:

- Not Under 10 USC 2430 MDAP definition
- IC Rqmts Process
- No Dir OT&E Oversight and approval of test plans required
- KDPs linked to contractor down select points (evolved practice)
- Acq Strat reviewed by IPAT and approved at NAB
- KDP Approval required for RFP release
- First APB required @ KDP-C
- Congressional reporting through briefings
- IPA Teams composed of full-time members with functional area advisors
- ICA/ICE by NRO Cost Group

USecAF NSS 03-01:

- Under 10 USC 2430 MDAP definition—drives acq phase specific tasks
- CJCSI 3170 Rqmts Process
- BY LAW: Dir OT&E must approve Ops Test Plans (TEMPS)
- KDPs start/end acquisition phases (study, design, build)
- Acq Strat reviewed by ASP and approved by MDA prior to DSAB
- Acq Strategy approval required for RFP release
- First APB required @ KDP-B
- Subject to SAR/UCR reporting per 10 USC 2433 and 2334
- IPA Teams include “full-time” core members & “part-time” stakeholder members
- ICA/ICE led by OSD CAIG

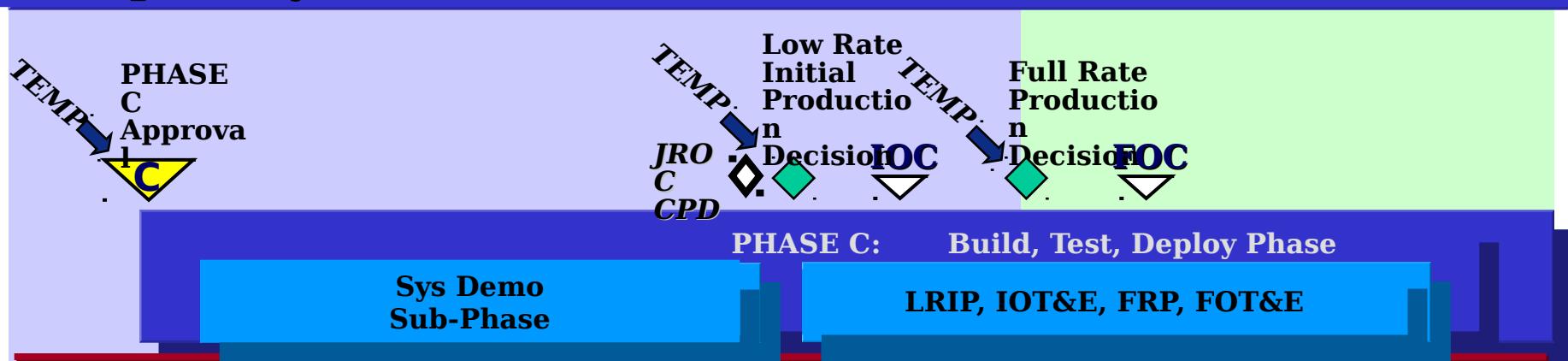


PHASE C - Build phase, production based

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~~Demonstrate. Build. Test. Produce.~~

Acq Policy 03-1: Phase C - Build Phase for Production Based



Entry Criteria:

- JROC approved

CDD

- OT&E approved

TEMP

- Approved

C4ISP

- Prototype(s)

Ready for

Demonstration

- Technology

Matured

Concept Sponsor Activities

- Complete CPD - Interactive with acquisition activities

- Prepare for and support system deployment - training, support to OT&E

Acquisition Activities

- Demonstrate system - Finalize production design with sponsor

- Build LRIPs

- Complete IOT&E

- Complete Full Rate Production Decision

- Continue build, test, deploy through completion of fielding

In integrity - Service - Excellence